

U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Bunker Hill SF site ER - Removal Polrep



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region X

**Subject:** POLREP #3  
Progress  
Bunker Hill SF site ER

**Smelterville, ID**  
**Latitude: 47.5469330 Longitude: -116.1645230**

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**Date:** 3/2/2019

**Reporting Period:** February 24 through March 2

## 1. Introduction

### 1.1 Background

<b>Site Number:</b>	<b>Contract Number:</b>
<b>D.O. Number:</b>	<b>Action Memo Date:</b>
<b>Response Authority:</b> CERCLA	<b>Response Type:</b> Emergency
<b>Response Lead:</b> EPA	<b>Incident Category:</b> Removal Action
<b>NPL Status:</b> NPL	<b>Operable Unit:</b>
<b>Mobilization Date:</b> 2/8/2019	<b>Start Date:</b> 2/9/2019
<b>Demob Date:</b>	<b>Completion Date:</b>
<b>CERCLIS ID:</b>	<b>RCRIS ID:</b>
<b>ERNS No.:</b>	<b>State Notification:</b>
<b>FPN#:</b>	<b>Reimbursable Account #:</b>

#### 1.1.1 Incident Category

Emergency Response

#### 1.1.2 Site Description

The Bunker Hill Superfund Site (Site) is located in the Coeur d'Alene Basin of Northern Idaho. The Site includes mining-contaminated areas in the Coeur d'Alene River corridor, adjacent floodplains, downstream water bodies, tributaries, and fill areas, as well as the 21-square-mile Bunker Hill "Box," where historical ore-processing and smelting operations occurred. The Site was listed on the National Priorities List (NPL) in 1983 and is assigned CERCLIS identification number IDD048340921. The Site is also known as the Coeur d'Alene Basin Cleanup. EPA has divided the Bunker Hill Superfund Site into three Operational Units (OUs); The OU 1 includes the populated areas of Bunker Hill Box and is where the current Bunker Hill Superfund Site Emergency Response (ER) is located.

##### 1.1.2.1 Location

The location of on-site activities surrounds the Central Impoundment Area (CIA), slurry wall, I-90 subsidence zone, and the seep discharging into the Coeur d'Alene River. EPA and the Corps of Engineers recently completed construction of a subsurface groundwater cutoff wall in this same area, between the site and I-90 and the river. I-90, through this area, was constructed on top of historic mine waste. Groundwater levels are naturally high and there is a direct hydraulic connection between the site and the river. As a result, roadway subsidence and groundwater seeps are not historically uncommon. I-90 is a major east west transportation corridor through northern Idaho and is considered critical infrastructure. Within this area, an array of tasks associated with existing groundwater monitoring wells, new soil test pits, and new groundwater monitoring wells were prioritized.

##### 1.1.2.2 Description of Threat

During EPA remedial cleanup activities which include the construction of a groundwater cutoff wall and collection system to collect and treat contaminated groundwater, a sediment seep was discovered in the South Fork of the Coeur d'Alene River in the vicinity of the cutoff wall. Additionally, over the course of a few days a subsidence had formed in Interstate 90 near the seep. EPA remedial program contractors have been investigating the source of the seep. Support from the EPA ER program was requested to provide rapid resources to identify the extent of the issue.

##### 1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

Region 10 mobilized one OSC to assist the Remedial Program. START and ERRS contractors have also been activated to support the assessment and mitigation.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

During the current PolRep reporting period, the EPA Region 10 Emergency Management Program continued to provide support to the EPA Region 10 Remedial Cleanup Program for the investigation of the situation and to initiate necessary mitigation measures. Details on the response actions performed during this reporting period are summarized below.

#### **2.1.2 Response Actions to Date**

##### **Groundwater Well Data Collection**

On Sunday, 2/24, START collected additional groundwater samples from selected monitoring wells and piezometers from around the PW-1 and PW-2 locations. Groundwater samples were collected from TP0, TP1E, LA-01, UA-07, and UA-13. Samples could not be collected from monitoring wells LA-03 and UA-10 because they were located near the drilling activities at PW-2. On Monday, 2/25, the samples were submitted to SVL Analytical, Inc. (SVL) in Kellogg for rush analyses of the site parameters (metals and water quality parameters). On Wednesday, 2/27, after the drilling was completed at PW-2, START collected groundwater samples from LA-03 and UA-10, and the samples were also submitted to SVL for rush analysis. START continued to use Scribe to manage the samples and lab data, and preliminary results were forwarded to the remedial program as soon as they were received from the lab.

##### **Tank Farm and Conveyance Pipeline**

ERRS finished the construction of the temporary conveyance pipeline to the lined pond. An ERRS subcontractor fuse-welded the 50-foot sections of 10-inch HDPE pipe together, and ERRS used excavators and other equipment to extend the conveyance pipeline from site around the Central Impoundment Area (CIA) to the lined pond.

##### **Geophysical Survey**

START subcontractor Sage Earth Sciences continued to process and evaluate the geophysics data that they collected during their site mobilization. Sage Earth provided draft figures of the ground penetrating radar (GPR) survey on Sunday, 2/24, and draft profiles of the electromagnetic (EM) and seismic surveys on Monday, 2/25. Sage Earth is continuing to evaluate and interpret the results of the geophysics surveys.

##### **New Monitoring Wells**

On Monday, February 25, START and Environmental West finished developing two monitoring wells (UA-14 and UA-15) installed previous week.

Environmental West also installed two new monitoring wells (CU-01 and CU-02) using sonic drilling techniques on the north side of I-90. Unlike the previous UA (upper aquifer) and LA (lower aquifer) monitoring wells, the CU monitoring wells were targeted for a sand lens that occurs in the aquitard (i.e., confining unit) that occurs between the upper and lower aquifers. The Remedial Program requested that the boreholes be advanced until the depth of the lower aquifer was identified. Then, the borehole was to be backfilled with bentonite chips, and the screened interval of the monitoring well was to be set at the depth of the sand lens in the aquitard.

Because access to the north side of I-90 is obtained from the highway shoulder, EPA coordinated again with the Idaho Transportation Department (ITD) for a lane closure and traffic controls. The lane closure for the monitoring well drilling was scheduled to begin on Wednesday, 2/27. However, because of weather conditions (snow, high winds, and low visibility), the lane closure did not begin until Thursday, 2/28. Monitoring well C-01 was drilled and constructed on 2/28 and monitoring well CU-02 was drilled and constructed on Friday, 3/1. The above-ground well monuments were installed on Saturday, 3/1, and well development was expected to continue on Sunday, 3/2.

An ERRS-subcontracted surveyor visited the site several times to record the horizontal (latitude and longitude) and vertical (elevation) coordinates for the newly installed monitoring and extraction wells.

##### **Extraction Wells and Pump Tests**

H2O Well Services, as a subcontractor to ERRS, continued to install and develop the emergency extraction wells.

On Sunday, 2/24, H2O noticed that extraction well PW-1, which was constructed on Saturday, 2/23, had sunk 3.2 feet, which may be attributed to the weight of the steel casing anchored in the aquitard. H2O continued to monitor it and it did not appear to sink any more.

On Sunday, 2/24, H2O began to drill at the PW-2 location, and well construction and development was completed by Thursday, 2/28.

On Tuesday, February 26, EPA performed a pump test at PW-1. The pump test was led by a specialist from the Remedial Program contractor, and assistance was provided by IDEQ, ERRS, and START. The driller placed a pump into PW-1 and began to pump water at different rates and for different periods of time to measure the drawdown and recharge rates in PW-1 and surrounding monitoring wells and piezometers. Depth-to-water levels in the observation wells were recorded frequently using automatic transducers and through manual measurements. Additional, IDEQ and its contractor monitored the behavior and characteristics of the seep in the South Fork Coeur d'Alene River (SFCDR) during the pump test. On Saturday, March 2, EPA performed a pump test in PW-2, using similar methods as PW-1. Together, the data from the pump tests will be used to select the locations of additional extraction wells and to design the aquifer control system.

##### **Emergency Discharge of Extracted Groundwater**

EPA is currently working to construct a temporary system to convey extracted groundwater from the site to the lined pond that is part of the Central Treatment Plant (CTP). Until this temporary conveyance system is set up, extracted groundwater from the pump tests were stored in a tank farm consisting of six 20,000-gallon frac tanks. Because of the limited on-site storage capacity for extracted groundwater, EPA prepared a Water Management and Emergency Discharge Contingency Plan for the site.

During each pump test, as the volume of extracted water approached the capacity of the available on-site storage, EPA discharged the water to a drainage ditch near the CIA. The ditch extends to Bunker Creek approximately 500 feet away, and then Bunker Creek flows into the SFCDR approximately 1,700 feet downstream. For the discharge location, EPA selected a location in the ditch that is closer to the CIA, and as far as possible from Bunker Creek.

In the event that any of the discharged water reaches surface water in Bunker Creek START implemented a sampling program. Prior to any discharge, baseline surface water samples were collected from upstream and downstream locations in Bunker Creek and in the SFCDR for the site parameters of concern. During the pump tests and any discharge, samples will be collected and analyzed, and if any discharged water reaches surface water in Bunker Creek, the upstream and downstream surface water locations in Bunker Creek and the SFCDR will be re-sampled.

To maintain capacity for the necessary ongoing pump tests, the extracted groundwater from the PW-1 pump test was discharged on Wednesday and Thursday, 2/27-28, and the extracted groundwater from the PW-2 pump test was discharged on Saturday, 3/2. In both cases, the discharged water infiltrated into the ground at the discharge location, which is within the site boundaries and the likely capture zone of the slurry cutoff wall. No noticeable flow was observed through the ditch to Bunker Creek 500 feet away.

### 2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The Bunker Hill site is a current NPL site. Previous Known PRPs include:

Bunker Hill Mining Corporation  
 Placer Mining Corporation  
 Liberty Silver Corporation  
 Gulf Resources & Chemical Corporation  
 Pintlar Corporation  
 ASARCO, Inc.  
 Government Gulch Mining Company, Ltd,  
 Federal Mining and Smelting Company  
 Hecla Mining Company  
 Sunshine Mining Company  
 Callahan Mining Corporation  
 Union Pacific Railroad Company

## 2.2 Planning Section

### 2.2.1 Anticipated Activities

The EPA Region 10 Emergency Management Program will continue to support the EPA Remedial Program in the investigation of the situation and initiation of mitigation measures.

#### 2.2.1.1 Planned Response Activities

#### 2.2.1.2 Next Steps

Finish the development of monitoring wells CU-01 and CU-02 on the north side if I-90.

Begin to install extraction well PW-1.1 at a location approximately 50 feet to the east of PW-1.

Plan for the performance of a pump test in PW-1.1, which is scheduled for Wednesday, March 6.

Continue to plan for the installation and pump testing of additional extraction (PW) wells as necessary.

Continue to procure equipment, supplies, and access for the installation of a temporary conveyance system for extracted groundwater to the lined pond of the CTP.

### 2.2.2 Issues

## 2.3 Logistics Section

No information available at this time.

## 2.4 Finance Section

### Estimated Costs \*

	Budgeted	Total To Date	Remaining	% Remaining
<b>Extramural Costs</b>				
ERRS - Cleanup Contractor	\$600,000.00	\$300,000.00	\$300,000.00	50.00%
TAT/START	\$400,000.00	\$300,000.00	\$100,000.00	25.00%
<b>Intramural Costs</b>				

<b>Total Site Costs</b>	\$1,000,000.00	\$600,000.00	\$400,000.00	40.00%
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\* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

## **2.5 Other Command Staff**

No information available at this time.

## **3. Participating Entities**

### **3.1 Unified Command**

### **3.2 Cooperating Agencies**

USEPA

USACE

IDEQ

ITD

## **4. Personnel On Site**

EPA

USACE

IDEQ

IDOT

START

ERRS

Jacobs

Environmental West Exploration

Sage Earth Sciences

## **5. Definition of Terms**

No information available at this time.

## **6. Additional sources of information**

No information available at this time.

## **7. Situational Reference Materials**

No information available at this time.